Vendo SANDEN

VUE 30 40

TROUBLESHOOTING SECTION

PARTS RETURN PROCEDURES

1. All parts returned must be accompanied by a material return tags (P/N 1122825) Tag must clearly state the reason for the return and the Return Goods Authorization Number received from your Vendo Customer Service Rep at 1-800-344-7216. (Return tags are available from our parts department upon request).

2. All parts should be properly wrapped and packed securely to avoid further damage.

3. To replace an inoperative part, please use the following instructions

4. Complete the return tag making sure to fill in ALL requested information to ensure prompt processing. Keep top (white) copy for your records. Attach tag to inoperative part and send it by the most inexpensive method of transportation (Federal Express Ground or Overnight Transportation) **To: SandenVendo America, Inc., 10710 Sanden Drive, Dallas, Texas 75238.**

5. Be sure to check (☑) the box marked "credit" and to fill in the invoice number covering the part sent to you or check the box marked "replace with like part".

6. If the box is marked for replace with like part, a like part will be shipped at no charge if our inspection shows that the inoperative part became defective during the warranty period.

7. If the box is marked for credit, a credit will be issued to cancel the invoice on which the replacement part was shipped. This credit will include any applicable prepaid transportation charges. To receive credit the inoperative part must be returned within 30 days from the date the replacement was shipped.

8. Vendo does not issue cash credit for the return of any part or accessory.

REFRIGERATION UNIT RETURN PROCEDURE

1. All refrigeration units returned must be accompanied by a material return tag (P/N 1122826). Tag must clearly state the reason for the return and the Return Goods Authorization Number received from your Vendo Customer Service Rep at 1-800-344-7216. (Return tags are available from our parts department upon request).

2. All refrigeration units should be properly wrapped and packed securely to avoid further damage.

3. To replace an inoperative part, please use the following instructions.

4. Complete the return tag making sure to fill in ALL requested information to ensure prompt processing. Keep top (white) copy for your records. Attach tag to inoperative part and send it by the most inexpensive method of transportation (Federal Express Ground or Overnight Transportation) **To**: **SandenVendo America, Inc., 10710 Sanden Drive, Dallas, Texas 75238.**

5. Be sure to check (☑) the box marked "credit" and to fill in the invoice number covering the part sent to you or check the box marked "replace with like part".

6. If the box is marked for replace with like part, a like part will be shipped at no charge if our inspection shows that the inoperative part became defective during the warranty period.

7. If the box is marked for credit, a credit will be issued to cancel the invoice on which the replacement part was shipped. This credit will include any applicable prepaid transportation charges. To receive credit the inoperative part must be returned within 30 days from the date the replacement was shipped.

8. Vendo does not issue cash credit for the return of any refrigeration unit.

***Canadian and International customers please contact your Customer Service Representative for return instructions**

The VUE 30/40 vendor provides self-diagnostics to aid you in the trouble shooting process. Error codes are stored in the controller's memory when a system error is sensed. These codes can be accessed in the Diagnostic section of Programming.

The trouble shooting section contains Error Codes (version 15) and General Machine Troubleshooting.

Error Codes (version 15)

ERROR	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
Vending Mechanism - PDC Error (Hand Control Board)			
X-motor Jam	X motor portion of vending mechanism did not start or complete.	System Check: If unit does not move, check the LED in the lower left hand side of PDC. It should be a constant red light. If LED is not on, unplug machine, check fuse on power distribution panel. Check two pin power connector in bottom of door. Check connection to board on X rail. Check power connection in PDC. Check power supply connections in power distribution panel. Check LED on power supply in power distribution panel. Check fuse on power supply in power distribution panel.	Replace fuse(s) if necessary. Plug in machine. Complete a test vend cycle.
		If unit has not returned to the home position, check to see if hand is jammed on tray or other item in cabinet.	Clear jam, unplug machine, wait 5 seconds and plug machine back in. If hand goes back home after auto recovery, run X motor in Test Motors. Complete a test vend cycle. If hand does not go home in X, replace X motor.
		If unit has returned to the home position, hand jammed but was able to recover. Check product positions to determine if any are sold out with product still in column.	Complete a test vend cycle of sold out products. If hand hits tray in X, adjust X home position.
Y-motor Jam	Y motor portion of vending mechanism did not start or complete.	Preform System Check, see X-Motor Jam.	Replace fuse(s) if necessary. Plug in machine. Complete a test vend cycle.
		If unit has not returned to the home position, check to see if hand is jammed on tray or other item in cabinet.	Clear jam, unplug machine, wait 5 seconds and plug machine back in. If hand goes back home after auto recovery, run Y motor in Test Motors. Complete a test vend cycle. If hand does not go home in Y, replace Y motor.
		If unit has returned to the home position, hand jammed but was able to recover. Check product positions to determine if any are sold out with product still in column.	Complete a test vend cycle of sold out products. If hand hits tray in Y, run Discovery 2.
Z-motor Jam	Z motor portion of vending mechanism did not start or complete.	Preform System Check, see X-Motor Jam.	Replace fuse(s) if necessary. Plug in machine. Complete a test vend cycle.
		If unit is extended in Z check Z housing ribbon cable to be sure it is plugged in.	Unplug machine. Plug in Z housing ribbon cable. Plug machine back in. If hand goes back home after auto recovery, run Z motor in Test Motors. Complete a test vend cycle.
		If product is in hand, look to see if product is stopping the hand from closing.	Remove product from hand. Unplug machine, wait 5 seconds and plug machine back in. If hand goes back home after auto recovery, run Z motor in Test Motors. Complete a test vend cycle.
		If unit has returned to the home position, hand jammed but was able to recover. Check product positions to determine if any are sold out with product still in column.	Complete a test vend cycle of sold out products. If hand hits tray front, run Discovery 2. If hand jams on center gate, reduce Z Product Position by 3 encodings.
Clamp-motor Jam	Clamp motor portion of vending mechanism did not start or complete.	Preform System Check, see X-Motor Jam.	Replace fuse(s) if necessary. Plug in machine. Complete a test vend cycle.
		Look at clamp fingers to see if only partially open.	Clamp motor has failed. Replace clamp motor.

ERROR	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
Jam - Recovered	The unit encountered a jam condition while vending. It was able to recover from the jam and return to home. The user was requested to select a new product.	Check product positions to determine if any are sold out with product still in column.	Complete a test vend cycle of sold out products. If hand hits tray front, run Discovery 2. If hand jams on center gate, reduce Z Product Position by 3 encodings.
Failed Movement	This is a non jam failure. A motor function failed to complete.	Depends on movement attempted. If Discovery, check reflectors.	Check Motors Movement in Test Mode and regular Vending. Check all Sensors under Check Sensor Status. Install any missing reflectors.
X-Rail Not Level	During a Discovery 2 operation, the X rail was higher on one side by more than 1 inch.	Unplug machine. Move the X rail manually to the center of the machine opposite a shelf. Close the door. Look along the bottom of the rail at the trays. Determine which side is higher.	Remove the X-rail cap. On the latch side of the machine, release the Y gear coupling. Move the X-rail down until it is level. Recheck. Run Discovery 2.
FLO Always On	During a target search operation, the Forward Looking Optic (FLO) was found to be always active.	Test Flo with a corner-cube reflector piece. The device has two lights. The green light should be on. When the reflector is in front of the Flo, the second light should change from off to orange. Check reflectors along latch side trays. FLO may have only seen the shelf 4 reflector during scan. Verify X Home aligned with latch side reflectors.	If the green light is off, check the plug on the PDC. If the orange light does not turn on and off, replace the FLO assembly. If the Flo does turn on and off replace the PDC board.
FLO Always Off	During a target search operation, the Forward Looking Optic (FLO) was found to never activate.	Check power on the FLO device. The green light should be on. Test Flo with a corner-cube reflector piece. When the reflector is in front of the Flo, the second light should change from off to orange. May not have seen any reflectors on latch side. Check reflectors along latch side trays.	If the green light is off, check the plug on the PDC. If the orange light does not turn on and off, replace the Flo assembly. If the Flo does turn on and off replace the PDC board. Make sure door properly closed.
Missing Coordinates	During a Discovery operation, an expected, required tray reflector was not found	1) Check reflectors on top shelves. 2) Check all reflectors on latch and hinge side trays are installed.	Install any missing reflectors.
		Check power on the FLO device. The green light should be on. Test Flo with a corner-cube reflector piece. When the reflector is in front of the FLO, the second light should change from off to orange. Check top and bottom shelves are properly seated on the base metal.	If the green light is off, check the plug on the PDC. If the orange light does not turn on and off, replace the FLO assembly. If the Flo does turn on and off replace the PDC board. Reseat tray firmly in shelf
Missing Tray	Used in Discovery 3 and 4. A required tray is missing on the top or bottom shelf.	Check all reflectors on top and bottom shelves.	Install any missing reflectors.
Shelf ends Mismatch	During a Discovery operation, the number of shelves in the latch side did not match the shelves on the opposite side of the machine.	Check all tray positions. Make sure each tray has a corner-cube reflector in the center tray pocket.	Replace any missing tray reflectors. Run Discovery 2.
		Check all side trays are fully seated in shelves.	Reseat tray firmly in shelf. Run Discovery 2.
Shelf Not Level	During a Discovery operation, one or more shelves was found to vary in position more than 1 inch from the hinge side to the latch side.	Check all tray positions. Make sure each tray is fully seated on the shelf.	Reseat tray firmly in shelf.

ERROR	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
Failed Communication	PDC failed to communicate with VMC.	Check all harnessing between PDC and VMC.	Unplug machine. Reset any loose pins in harnesses. Reseat reseat harness plugs. Plug in machine.
		Check LED's on PDC. Lower right hand light should have heartbeat. Green heartbeat = PDC not receiving communication from VMC. Orange heartbeat = PDC both receiving and transmitting communication. Red heartbeat = PDC closed communication. No heartbeat (LED off or solid color LED) = PDC not operating. If no heartbeat, check FLO power indicator (should be solid green).	If Green or Orange heartbeat, check MDB communication cable connections as above. If Red heartbeat, PDC has logic error. Unplug machine, wait 5 seconds and plug machine back in. If no heartbeat, LED is off and Flo power indicator is off, the PDC does not have power. Check the heartbeat on the VMC. If the VMC is powered, check the MDB cables. If no heartbeat and the Flo power indicator is on a problem with the software flash chip may be likely. Replace the flash chip. If this does not fix the problem, replace the PDC.
Failed Unknown	An error occurred that did not conform to any known error.	Check all harnessing between PDC and VMC.	Unplug machine. Reset any loose pins in harnesses. Reseat reseat harness plugs. Plug in machine.
		Check LED's on PDC. Lower right hand light should have heartbeat. Green heartbeat = PDC not receiving communication from VMC. Orange heartbeat = PDC both receiving and transmitting communication. Red heartbeat = PDC closed communication. No heartbeat (LED off or solid color LED) = PDC not operating. If no heartbeat, check Flo power indicator (should be solid green).	If Green or Orange heartbeat, check MDB communication cable connections as above. If Red heartbeat, PDC has logic error. Unplug machine, wait 5 seconds and plug machine back in. If no heartbeat, LED is off and Flo power indicator is off, the PDC does not have power. Check the heartbeat on the VMC. If the VMC is powered, check the MDB cables. If no heartbeat and the Flo power indicator is on a problem with the software flash chip may be likely. Replace the flash chip. If this does not fix the problem, replace the PDC.
		Run Vending motors in Test Motor. Check health of sensors in Test Mode Check Sensors.	Unplug machine. Replace any malfunctioning motors or sensors. Plug the machine back in.
			Reboot the machine. If problem exists, change the PDC and VMC software.
Setup Flash Write Failed / Setup Flash Write Failed	Changes to the configuration could not be stored in PDC's FLASH chip.	Reboot the machine.	1) (In factory), if never able to program FLASH, the FLASH may be misconfigured (Fujitsu chip has Sector 7 protect on) 2) Random Failure: Cold reboot GFV and try again. 3) FLASH chip has failed or worn out (after many thousands of uses). Replace FLASH chip with new. The FLASH chip holds the software, so it is the PDC software chip. Don't forget to save relevant parts of PDC's configuration. 4) If FLASH chip change does not work (try more than once, using care to install chip without damage), there may be a failure in the PDC circuitry. Replace PDC board.
Failed Conformation	Discovery 1 scanned the latch side of the GFV and the shelves discovered do not match those stored in FLASH. Shelf configuration changed.	Machine will automatically perform Discovery 2.	Run Discovery 2. If no changes were made to the trays/shelves in GFV, may indicate a missing reflector.
Inappropriate Command	Test/Config Mode command received while not in Test/ Config Mode. Ex. Test Motors command received while the machine is vending.	PDC will automatically ignore the inappropriate command.	

ERROR	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
Command Out of Sequence	The MDB command received is inappropriate for the current state of the PDC. Ex. example, if the Vend Drop command were received when the hand is not waiting at the hopper to drop a product during a Vend, Startup, or Recovery.	PDC will automatically ignore the command.	
Command in Progress	Test/Config Mode command received while already executing a Test/Config command.	PDC will automatically ignore the command.	
Command Data Out of Range	Test/Config Mode command received that is either an invalid comand number or has a parameter that is out of range for that parameter.	VMC will retry sending the command to PDC	
Command Denied Safely	A command was rejected because it is unsafe. A Test/Config Z Movement command was rejected because the PDC thinks the hand is in the pocket at the bottom of the machine.	PDC will automatically ignore the command.	
Shelf Invalid	Test/Config commands that have a shelf number as a parameter can return this error for a shelf number, while in range, which identifies a shelf that does not exist (was not found during discovery).	Performing Calibrations / Set Z corrections without rumming discovery can lead to this error.	Run Discovery 2 before performing Calibration or Corrections.
TC Failed Movement	1.When any one of the folloing movements in X , Y , Z or Clamp fail during Test Motors. 2. When any of the sensors fails. (i.e. X,Y, Z , Clamp or Forward Looking Optics Sensors)	1.Check to see if the X , Y , Z or Clamp movements are performed. On Exit from Test Motors the X,Y, Z and clamp should be at home position. 2.Check the Sensors. (O denotes good sensor. If the sensor is blocked - then change the respective sensor)	Run Test Motors and Get Sensor Status after performing the checking method.
Vending Mechanism - VMC Error			
Hop.Flap No Current	Hopper flap motor either did not run, or no current was detected.	Check Hopper flap harness connection.	Plug in hopper flap connector. Run Test Hopper Flap in Test Mode.
		Run Test Hopper Flap in Test Mode	If motor moves, current detection circuitry has been damaged on VMC. Replace VMC board.
Hopper Flap Jam	VMC detected high current while running the Hopper Flap motor without detecting the Hopper flap positioning switch.	Run Test Hopper Flap in Test Mode	If motor does not move, replace Hopper Flap motor.
		Check to see if product is jamming the Flap	Remove the product. Run Hopper Flap Test.

ERROR	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
Hop.Buck No Current	Hopper Bucket motor either did not run, or no current was detected.	Check Hopper Bucket harness connection.	Plug in hopper bucket connector. Run Test Hopper Bucket in Test Mode.
		Run Test Hopper Bucket in Test Mode	If motor moves, current detection circuitry has been damaged on VMC. Replace VMC board.
Hopper Flap Jam	VMC detected high current while running the Hopper Bucket.	Run Test Hopper Bucket in Test Mode	If motor does not move, replace Hopper Bucket motor.
		Check to see if product is jamming the Bucket	Remove the product. Run Hopper Bucket Test.
Hopper Flap Switch	Hopper flap motor runs but does not detect the home switch.	Run Test Hopper Flap in Test Mode	Replace hopper flap motor assy.
Hopper Bucket Switch	Hopper bucket motor runs but does not detect the home switch.	Run Test Hopper Bucket in Test Mode	Replace the hopper bucket motor assy.
Selection Switches - Keypad			
Stuck Selection SW on Keypad	Bad Selection Switch - Selection switch within the Keypad is actuated for more than 15 seconds while in the Customer Mode or Door Open Sales Test Mode.	Check the selection switch number shown in the detailed error code "nn" to see if: 1) if the Keypad is defective; 2) the harness is wired wrong/shorted	Try to correct the problem if one of the two items are found. If you can't correct it, then replace the component in question.
Coin Changer			
Coin Communication	Changer communication error - no changer communication for more than 2 seconds.	Check that red light is flashing on control board.	If light is not flashing, there is no power to board. Check and replug any unplugged connections.
		Check fuse on the power distribution panel.	If fuse is blown replace it.
			Replace transformer.
		Defective acceptor.	Replace acceptor.
Tube Sensor	Tube sensor is defective -- reported by changer.	Check changer tubes for blockage	Clear tube blockage. If no blockage is found, replace changer.
Coin Inlet	Changer inlet chute blocked - no coins sensed for over 96 hours by the changer.	Check inlet chute for blockage. Drop coins in Sales Mode or Tube Fill Mode to test acceptance. Manually clear the error.	Clear inlet chute blockage. If no blockage found, replace changer. If acceptance rate is acceptable, system is OK. If acceptance rate is low or changer will not accept coins, replace changer.
Tube Jam	Tube pay out jam -- reported by changer.	Check changer tubes and payout for blockage.	Clear blockage, if found. If no blockage is found, replace changer.
Coin Read Only Memory	Changer check sum incorrect -- reported by changer.	Unplug machine, wait at least five seconds, replug machine. Manually clear the error	If error does not clear, replace changer/acceptor.
			Replace acceptor
Excessive Escrow	Excessive escrow requests -- more than 255 requests since the last coin was sensed.	Check escrow lever and associated mechanisms.	Manually clear the lever and error.
		Close door then reopen. Check to see if error still occurs.	Replace changer/acceptor.
Coin Jam	Coin jam - reported by changer	Check changer/acceptor for jammed coins or other obstructions.	If no obstructions are apparent, replace changer/acceptor
Low Acceptance	Low acceptance rate -- coin acceptance has fallen below 80%	Check changer/acceptor for obstructions or dirt	If no obstructions are apparent, and acceptance appears to be OK, this may be an indication of cheating attempts.
		Drop coins test acceptance.	If no obstructions are apparent and coins do not accept, or acceptance rate is poor, replace changer/acceptor.

ERROR	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
Accept Disconnect	Disconnected acceptor -- indicates that an acceptor is unplugged.	Check coin mechanism plugs. Check for faulty harness wiring (see wiring diagram for circuit).	Correct connections.
Routing	Coin routing - indicates a coin was routed incorrectly.	Verify acceptor set-up using manufacturer's recommendations.	If acceptor was set up correctly, replace acceptor.
Dollar Bill Validator			
Bill Validator Communication	Bill validator communications - No bill validator communication for 5 seconds.	If changer or card reader is being used, check for "CC" or "rC" errors.	If there are no "CC" or "rC" errors: 1) Check bill acceptor harness; 2) Replace bill acceptor. If there is a "C" or "rC" error: 1) Check control board MDB harness.
		Turn off door switch and wait at least five seconds. Turn on door switch.	
Bill Validator Full	Bill validator full - reported by validator (STACKER command).	Insure bill cashbox is empty and that the cashbox is properly closed and in place.	If cashbox appears to be OK, replace bill acceptor.
Bill Validator Motor	Bill validator motor is reported as defective by validator.	No test available	Replace bill acceptor.
Bill Validator Jammed	Bill jammed -- reported by validator.	Check bill validator for obstructions or dirt.	If no obstructions are apparent, replace bill validator.
Bill Validator ROM	Bill validator check sum is incorrect.	Turn power switch off. Wait at least five seconds. Turn power switch on. Manually clear the error.	If error does not clear, replace bill acceptor.
Bill Validator Open	Bill validator is open.	Check that bill cashbox is closed and in correct position.	If cashbox appears to be OK, replace bill acceptor.
Bill Validator Sensor	Bill validator sensor is not functioning.	Check bill validator for obstructions or dirt.	If no obstructions are apparent, replace bill validator.
Card Reader			
Card Reader Communication	There is no card reader communication for 5 seconds.	If card reader/bill acceptor is being used, check for "rC' or "bC" errors.	If there is no "rC" or "bC" error: 1) Check changer harness. 2) Replace changer.
		Turn power switch off. Wait at least five seconds. Turn power switch on.	If there is a "rC" or "bC" error: 3) Check control board MdB harness.
Card Reader	Most recent "non-transient error" from the card reader.	No test available.	Refer to card reader manual for corrective action.
Refrigeration			
Temp Sensor	The temperature sensor is defective or unplugged.	Check to see that temperature sensor harness is plugged into door harness at air dam area.	If the sensor is unplugged, replug it.
		Check for temperature sensor connection J7 on control board is plugged in.	If the connection is unplugged, replug it.
Compressor	System has failed to decrease temperature 1° per hour while the compressor is running.	Check refrigeration settings (refer to refrigeration section of programming manual).	Change settings as required.
		Check if evaporator is frozen.	Check seal around cabinet.
		Verify evaporator fan is running.	Check harness to fan motor and check output voltage.
Miscellaneous Problems			
Door Switch	Outer door has been open for more than one hour.	Check the vendor's door switch to see if it's sticking or miswired.	Replace the door switch, if defective.

ERROR	DESCRIPTION OF ERROR CODE	CHECKING METHOD	CORRECTIVE ACTION
Ram Error	Ram check sum for service mode settings stored in non-volatile memory has been corrupted.	No test available.	If error shows up frequently, replace the control board.
AC Low	AC voltage to the controller is less than 20Vrms for more than 30 seconds.	Check for low voltage at the wall outlet at unit start-up.	Contact a qualified electrician.
Scale	Scaling Factor error - one of the credit peripherals has introduced a scaling factor that is not compatible with the current configuration.	Check the connections of changer harness; make sure changer is plugged in and working.	Make corrections to harness or replace the changer if necessary.
Inlet Sensor	Machine's coin inlet sensor is blocked for more than 1 minute.	Check changer harnessing for cut, pinched or crimped wires.	Replace harnesses or changer.
Escrow Return Mech.	3 successive coins are detected at the inlet but do not make it into the changer in 10 seconds.	Check inlet for blockage. If nothing is found, check changer harnessing for cut, pinched or crimped wires.	Clear blockage or replace harness or changer.

General Machine Troubleshooting

ERROR	PROBABLE CAUSE	CORRECTIVE ACTION
COIN ACCEPTANCE/PAYOUT (Record all errors for reference if Vendo Technical Service is required)		
Coin mechanism will not accept coins.	No power to control board.	Check to make sure the red LED on the control board is flashing red. If flashing, check MDB harness connections. If connections are good, replace changer.
	Harness from coin mech to board is cut or disconnected.	Use a meter and check each wire for continuity and ground.
	Short in coin mechanism.	Replace coin changer/acceptor.
	Acceptor is dirty or other problem may exist (not tuned).	Clean acceptor or contact your local coin mech dealer.
	Defective control board.	Replace control board.
No acceptance or rejects a percentage of good coins.	Coin return lever pressing down on acceptor's coin plunger.	Make sure changer is mounted correctly and the coin return lever is in the proper position.
	Acceptor is dirty or foreign matter is in the path.	Clean acceptor or contact dealer.
	Coin changer is improperly tuned (if tunable).	Contact manufacturer for tuning.
	Defective controller board.	Replace/test controller.
Always accepts coins but gives erratic/no credit.	If NO CREDIT: Defective harness between coin mech and control board (will have "CC" error).	Check harness for cut wires or wrong/bad connections. Test each wire for continuity or test to ground. If found to be defective, replace.
	If ERRATIC OR NO CREDIT: Acceptor or coin mech.	Replace coin mech and test.
	If NO CREDIT: Defective controller.	Replace/test controller.
Changer will not payout coins.	Defective harness between coin mech and control board.	Test vendor's manual coin payout. If vendor won't pay out using the Coin Payout mode or during sales, check harness for cuts, bad continuity or wrong connections. If defective, replace and test.
	Defective coin mech.	Replace coin mech and test.
	Defective controller board.	If coin mech won't payout coins manually in the Coin Payout mode or during the Sales Mode and the above two procedures have failed, replace the control board and test payout both in the Coin Payout mode and during a sale.
	Changer payout buttons are disabled while door is closed or while in Open-Door Sales Mode.	Enter the Service Mode or access the Coin Payout Mode.
BILL ACCEPTANCE		
Bill Acceptor will not pull bill in.	No power to validator.	Unplug power. Wait for 10 seconds. Reconnect power and see if bill acceptor cycles. If not, check acceptor harnessing or replace the bill acceptor.
	Acceptance disabled by coin mech (if present), or bad harnessing.	Make sure that the coin mech is plugged in (accepts coins) and that the coin tubes have enough coins to enable bill acceptance.
	Coin mech is not operative.	Make sure that the changer harnessing is correctly connected and has continuity. Repair or replace if necessary.
	Replace acceptor and test.	If acceptor accepts, bill acceptor was defective.

ERROR	PROBABLE CAUSE	CORRECTIVE ACTION
Bill acceptor takes a bill but does not establish credit.	Defective acceptor harness (credit not getting from acceptor to control board through the harness).	Make sure that the acceptor and harnessing is correct for your style of acceptor and it is plugged in and wired properly.
	Defective acceptor.	Replace/test acceptor.
	Defective controller.	Replace/test controller.
Bill acceptor takes a bill and credits but not erasing credit.	Defective bill acceptor.	Replace acceptor and test acceptance and erasure of credit.
	Defective controller.	Replace/test controller for erasure of credit.
	Both vend sensors are defective	Replace vend sensor.
Acceptor takes a bill and allows payback of coins without a selection.	Controllers configurations not set properly.	Access vendor configuration mode and check the “Forced Vend” setting.
VENDING PROBLEMS		
Hand not in home postion	Communication error between VMC and PDC or PDC software error	Cycle power to unit. Start-up routine should begin.
Hopper is open	Vend optics blocked	Enter Test Mode check Vend Detection (see service manual). Cycle power to unit. Strat-up routine should begin.Relpace/Test vend optics.
No vend upon selection.	No power or communication to hand.	Check for lights on hand. Left side red light (motor power) right side flashing (logicpower/ communication). If no light than check MDB connection on VMC.
Hand not aligned correctly to tray when vending.	Tray or shelf out of position (not seated). Tray table in the PDC not present or correct.	Reseat tray or shelf. Run calibration #1 then #2.
X-rail not moving, product in hand.	Vend flap motor umpluged or linkage broken.	Test vend flap in Test Mode. Replace if broken.
Completely sold out while product is still in the column.	Product pusher not functioning	Check to see if product pusher is engaged.
MISCELLANEOUS PROBLEMS		
Door will not close completely.	Hand assembley hitting the lower blukhead. Tri-Teq lock system is in the locked position.	Reposition y-rail stops and check y-home magnet. Open Tri-Teq lock, check for damage to lock slide.
Display shows sold out immediately upon pressing selection button of full column (sold out not clearing).	Door switch wired incorrectly or cut/pinched.	Manually press door switch. If still not vending, check wiring or replace door switch.
	Defective control board.	If door switch is replaced and still reading sold out, replace control board.
Vendor appears dead; no digital display and no lights.	Defective main harness.	If red light on control board is off, check fuse and transformer.
No digital display; vendor lights on.	Defective display or display harness.	Check display and display harness. Replace if necessary.
	Check for a flashing red light on control board.	If no light, replace control board.
Vendor scrolls message on display but does not accept money.	Changer out of tune.	See “Tuning Changer”.
	Defective changer.	Replace changer.
	Defective controller board.	Replace control board.
Vendor accepts money but does not display credit.	Defective changer.	Replace changer.
	Defective controller board.	Replace board.

ERROR	PROBABLE CAUSE	CORRECTIVE ACTION
Vendor accepts and credits money but does not vend (does not indicate a sold-out).	Defective selection switch.	Replace switch.
	Defective selection switch harness.	Repair or replace harness.
	Defective controller board.	Replace board.
REFRIGERATION		
Refrigeration unit will not run.	Defective temperature sensor.	1. Check connection.
		2. Replace temperature sensor.
	Defective control board.	Replace board.
Refrigeration unit will not run at all.	No power to vendor.	Check power supply, also check service cord connections.
Unit will only run in the compressor relay test mode. (Located under Test Mode)	Defective cabinet switch.	Open and close the door to make sure lights and fan come on. If not, then check the cabinet switch.
	Defective temperature sensor.	Follow the same steps detailed above about the temperature sensor.
	Wait the 3 minute delay once the cabinet door is closed.	Wait to see if unit comes on.
	Defective control board.	If unit still does not come on, then replace the control board.
Unit will not run in the compressor relay test mode. **NOTE: Leave the compressor relay test mode on, in order to check for voltage.	Defective control board.	Unplug unit at power distibution panel. Remove air dam. Reconnect power. Enable compressor relay through Test Mode. Check 2-pin connection on power distribution for 110V.
	Defective relay.	Upon opening the cabinet door, the lights and fans should shut off. If they don't, replace the cabinet switch.
Refrigeration unit runs constantly.	Defective cabinet switch.	Upon opening the door, the display should read either errors, summary sales, or none. If it does not, then replace the cabinet switch.
	Defective control board.	Replace control board.
	Defective relay - contacts are welded together.	Replace relay.
Compressor will not start.	Overload protector inoperative.	Check overload (apply insulated jumper across terminal, if compressor starts, replace overload).
	Defective cabinet switch.	Check for error codes. Replace cabinet switch.
Compressor will not start, condenser fan motor running - unit hot (power to compressor).	Defective over load relay	Replace the over load relay.
	Compressor motor rocked	Replace the refer unit.
	Defective capacitor	Replace the capacitor.
	Defective PTC relay	Replace the PTC relay.
Compressor starts but does not run.	Loss of refrigerant	Replace the refrigeration unit.
	Smashed tubings and capillary	Replace the refrigeration unit.
	Defective over load relay	Replace the over load relay.

ERROR	PROBABLE CAUSE	CORRECTIVE ACTION
Compressor runs but cabinet temperature warm.	Loss of refrigerant	Replace the refrigeration unit.
	Smashed tubings	Replace the refrigeration unit.
	Defective drainage	Make sure the drain hose is not kinked or clogged.
	Defective temperature sensor	Replace the temperature sensor.
	Poor air flow	Make sure nothing is sitting in front of the evaporator.
	Defective control board	Replace the control board.
	Defective door seal	Make sure the vend flap and gasket are not open.
	Defective heat exchange on condenser/ Blocking air flow by dust, lint or fins damage	Clean the surface of the condenser fins or straighten the bent fins.
Both compressor and condenser fan motors will not operate.	Bad refrigeration control relay.	Test relay using relay test function of the electronic controller. Replace relay if necessary.
	Bad connection at power board.	Check wiring connections. Make corrections if necessary.
Evaporator frosted over.	Loss of refrigerant	Replace the refrigeration unit.
	Smashed tubings	Replace the refer unit.
	Defective drainage	Make sure the drain hose is not kinked or clogged. Re-install hose correctly if kinked or clogged.
	Defective temperature sensor	Replace the temperature sensor.
	Defective control board	Replace the board.
	Poor sealing	Check gasket, vend flap, and permagum on the bulkhead.
Product freezing up (too cold).	Temperature setting too low.	Adjust set point in control board.
	Defective temperature sensor	Replace the temperature sensor.
	Defective control board	Replace the control board.
Excessive noise.	Fan blade hitting shroud or transformation or loose fitting	Replace the fan blade or re-install correctly.
	From the inside of fan motor or loose fitting	Re-install or replace the motor.
	From the inside of compressor or loose fitting	Replace the refrigeration unit.